

In the Claims

Claims 1 – 22 (Cancelled)

23. (Currently Amended) A method of producing a high-tensile-strength cold-rolled steel sheet having a r value of as high as 1.2 or more, and excellent strain age hardenability and natural aging resistance comprising:

~~the~~ hot-rolling step of roughly rolling a steel slab by heating to a slab heating temperature of 1000°C or more to form a sheet bar, finish-rolling the sheet bar so that the finisher delivery temperature is 800°C or more, and coiling the finish-rolled sheet at a coiling temperature of 800°C or less to form a hot-rolled sheet;

~~the~~ cold-rolling step of pickling and cold-rolling the hot-rolled sheet to form a cold-rolled sheet; and

~~the~~ cold-rolled sheet annealing step of box-annealing the cold-rolled sheet at an annealing temperature of the recrystallization temperature to 800°C, then continuously annealing the annealed sheet at an annealing temperature of Ac_1 transformation point to Ac_3 transformation point - 20°C), and then cooling the sheet to the temperature region of 500°C or less at a cooling rate of 10 to 300°C/s;

wherein the steel slab has a composition, by mass %, comprising at least one of:

C: 0.025 to 0.15%;

Si: 1.0% or less;

Mn: 2.0% or less;

P: 0.08% or less;

S: 0.02% or less;

Al: 0.0% or less; and

N: 0.0050 to 0.0250%;

wherein N/Al is 0.30 or more.

24. (Currently Amended) ~~A~~The method of ~~producing a high tensile strength cold-rolled steel sheet~~ according to Claim 23, further comprising performing over aging in a temperature region of 350°C to the cooling step temperature for a residence ~~time~~time of 20 seconds or more subsequent to cooling after the continuous annealing.

25. (Currently Amended) ~~A~~The method of ~~producing a high tensile strength cold-rolled steel sheet~~ according to Claim 23 or 24, wherein the composition further comprises, by mass %, at least one of the following groups d to g:

Group d: at least one of Cu, Ni, Cr and Mo in a total of 1.0% or less;

Group e: at least one of Nb, Ti and V in a total of 0.1% or less;

Group f: 0.0030% or less of B; and

Group g: one or both of Ca and REM in a total of 0.0010 to 0.010%.